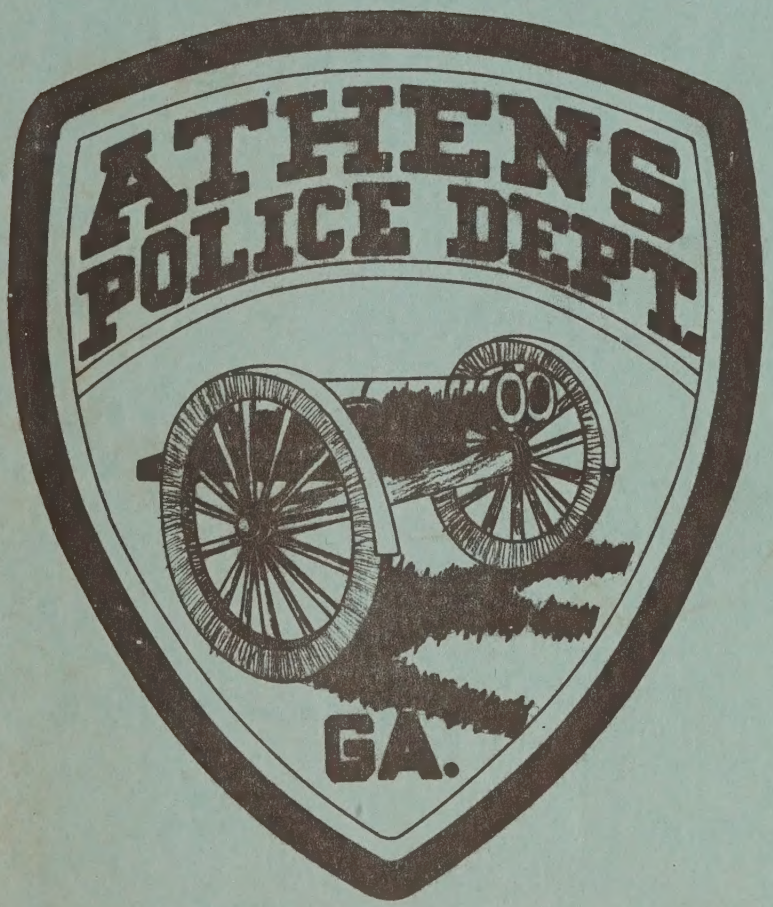
RENOVATION OF COSTA BUILDING
CITY OF ATHENS, GEORGIA



PROPOSAL, CONTRACT BONDS & SPECIFICATIONS

P R O P O S A L,

CONTRACT, BONDS AND SPECIFICATIONS

FOR

THE RENOVATION OF THE COSTA BUILDING

WASHINGTON STREET

ATHENS, GEORGIA

1973

MAYOR JULIUS F. BISHOP
Robert F. Thomas, Administrative Assistant
William T. Cook, Jr., Project Officer

COUNCIL MEMBERS:

Luther T. Bond	Paul J. Oeland
Edward L. Turner	Dwain P. Chambers
J. Comer Whitehead	Hugh R. Hale
Robert H. Kimbrell	W. Calvin Bridges
Joseph R. Hooten	Bryan Craft

City of Athens
Athens, Georgia

ADVERTISEMENT FOR THE INVITATION TO BID ON THE RENOVATION OF THE COSTA BUILDING ON WASHINGTON STREET IN ATHENS, GEORGIA

Sealed proposals from General Contractors will be received by the Project Officer for the City of Athens, Georgia at the City Hall up to 2:00 p.m., Daylight Saving Time, on October 9, 1973, for all labor and materials required to renovate, in accordance with drawings and specifications, the Costa Building on Washington Street in Athens, Georgia.

Proposals will be publicly opened and read aloud at 2:00 p.m., Daylight Saving Time, on October 9, 1973, in the Conference Room, City Hall, Athens, Georgia.

Bidding documents may be obtained from the Project Officer, City Hall, Athens, Georgia, beginning September 17, 1973. Applications for documents must be accompanied by a deposit of Thirty-five ($35.00) Dollars per set and should be filed with the City Project Officer. The full amount of the deposit for each set of documents will be refunded to each General Contractor who submits a bona fide bid upon return of the documents, in good condition, within thirty (30) days after the date of opening of the bids. All other deposits will be refunded with a deduction of Ten ($10.00) Dollars per set upon their return, in good condition, within thirty (30) days after date of opening bids.

No bid may be withdrawn for a period of thirty (30) days after the date of opening of bids. Bids must be accompanied by the Proposal and a Bid Bond from a corporate Surety Agency authorized to do business in Georgia in an amount of not less than five (5) percent of the bid. Both Performance and Payment Bonds from a corporate Surety Agency authorized to do business in Georgia will be required: The Performance Bond shall be in an amount equal to one hundred (100) percent of the contract price; the Payment Bond shall be in an amount equal to fifty (50) percent of the contract price.

The Owner reserves the right to reject any and all bids and to waive technicalities and informalities. No conditional bids will be accepted.

THE CITY OF ATHENS, GEORGIA

By: _____
Julius F. Bishop
Mayor

P A R T S

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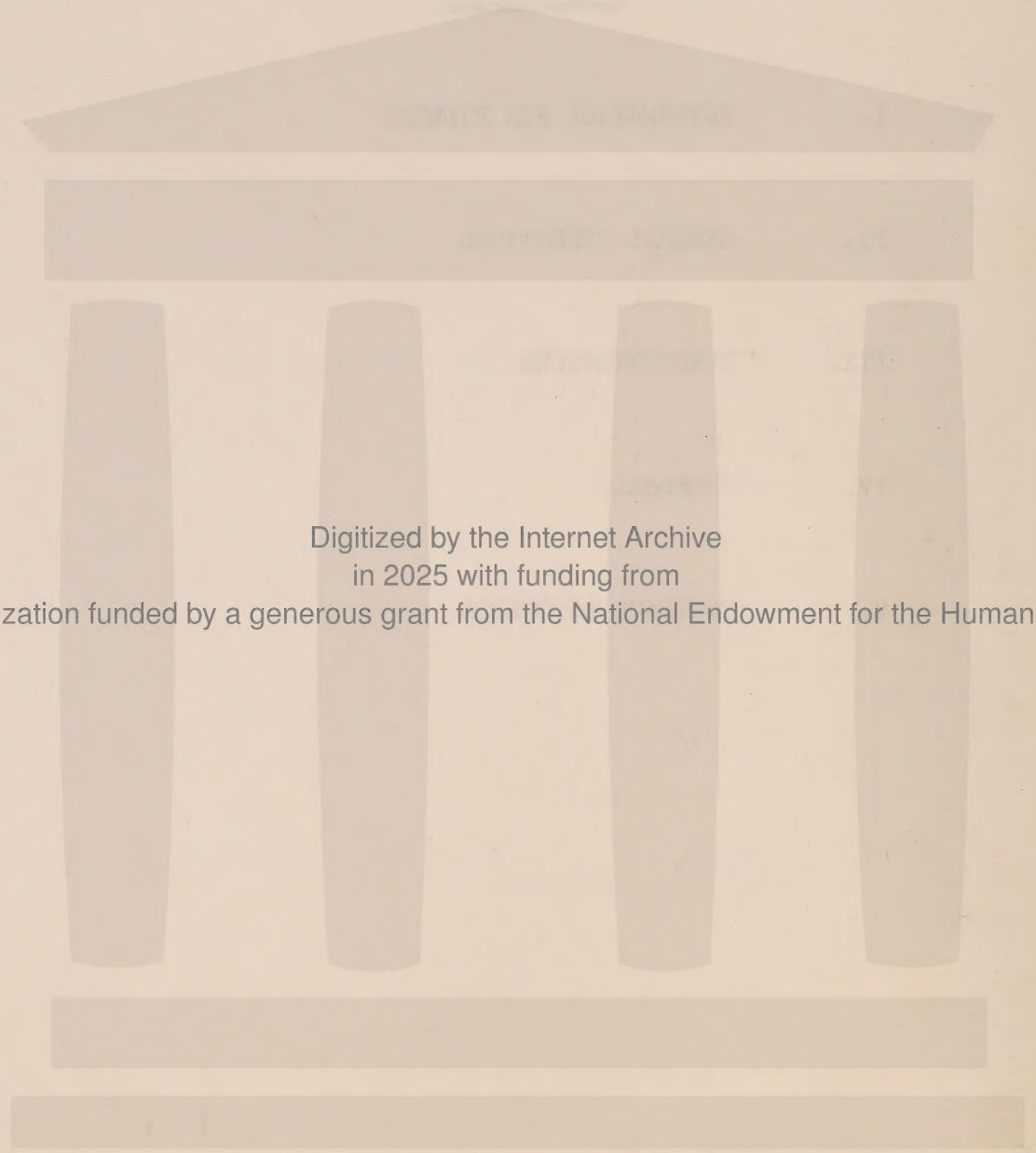

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I. INFORMATION FOR BIDDERS

I. INFORMATION FOR BIDDERS

1. RECEIPT AND OPENING OF BIDS:

The Mayor and Council of the City of Athens, Georgia, (herein called the "Owner"), invites bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Owner at the City Hall until 2:00 p.m. DST, on October 9, 1973, and then at 2:00 p.m., DST, on October 9, 1973, publicly opened and read aloud in the Conference Room of the City Hall. The envelopes containing the bids must be sealed, addressed to Project Officer, City of Athens, at Athens, Georgia, and designated as Bid Proposal for Renovation of the Costa Building.

III. SPECIFICATIONS

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1. REMOVAL OF MATERIALS:

Remove and clear from the premises:

(A) Partitions except those surrounding; the furnace room and adjacent storage areas in the basement; the stairs, and the elevator.

(B) Loose plaster and loose paint from the interior walls, ceilings, and supports.

(C) Cork insulation from walls and ceilings.

(D) Plumbing pipes, fixtures, boiler, hot water heater, and related fixtures.

(E) Wiring, panels, cables, and conduit.

(F) Wood flooring from areas designated for new concrete floors. (See Division 6 - Floors.)

2. EXCAVATION - REAR ENTRANCE:

Excavate and grade the area at the rear entrance to the levels and of the dimensions specified by drawings. (See Divisions 3 and 11 - Concrete Work and Masonry.)

3. CONCRETE WORK:

(A) GENERAL:

(1) Work described in this section includes formwork, reinforcing, mixing, and placing of ready-mix concrete for slabs on ground and retaining wall at rear of building, and replacement of all wood floors on the first floor.

(2) Concrete Code: In general, the recommendations of the Building Code Requirements for Reinforced Concrete, ACI Standard No. 318-63, shall be adhered to and considered standard procedure.

(B) PRODUCTS:

(1) Type of Concrete:

28-day strength: 3000 p.s.i.

Type: Building Code.

Slump Range: 3" plus or minus 1"

Weight: Regular

Air Entrained: Yes

(2) Curing compound shall meet the requirements of ASTM C-309-58 for "Liquid Membrane-Forming, Compounds for Curing Concrete."

(3) Metal reinforcing shall be deformed type bars, conforming to ASTM A305-65. Reinforcement shall be manufactured from new billet steel of domestic manufacture conforming to ASTM A615, Grade 60.

(4) Welded wire fabric or cold-drawn wire for concrete reinforcement shall conform to the requirements of ASTM A185.

(5) Wood Forms: Square edged No. 2 boards of Southern Pine or Douglas Fir, and plywood or metal.

(C) INSTALLATION:

(1) Forms: Construct to conform to the shape, lines, grades, and dimensions indicated on the drawings. Make forms substantial and sufficiently tight to prevent leakage of mortar and properly braced or tied together to maintain position and shape. Forms shall not deflect under the dead load weight of the liquid concrete of construction loads.

(2) Reinforcement:

(a) Metal reinforcement shall be protected by concrete cover. The thickness of concrete over the reinforcement shall be as follows:

Slabs	1" clear to top
Wall	3" clear to sides and bottom 2" clear to top

(b) Install wire mesh reinforcing in top of concrete slabs on ground. Lap all joints 6" and extend mesh to within 1" of sides and ends of slabs.

(c) Before concrete is placed, and after sufficient notice, the Project Officer shall have sufficient opportunity to inspect and pass upon the placement of reinforcing steel.

(3) Placing of concrete shall be by such means as will prevent segregation of mix. When a truck mixer is

employed, mixture shall be discharged within one hour of initial mixing. No concrete shall be placed which has been discharged from mixer truck more than 30 minutes.

(4) Vibrators of the internal type shall be used to mechanically vibrate concrete while being placed. Particular attention shall be given the vibrating of concrete to insure a dense, homogeneous mass free of air bubbles and honeycombing; however, care shall be taken not to separate materials by excessive vibrating. Vibrator shall not be used as a transporting facility.

(5) Curing Concrete: To prevent shrinkage cracks and to assure dense concrete, special care shall be taken in curing concrete as follows:

(a) Curing Concrete Slabs: Concrete slabs shall be cured by keeping the concrete continuously wet for a period of at least 7 days after concrete has been placed or by completely covering the slab with liquid curing compound, at Contractor's option.

(b) Curing Compound: If curing compound method is selected, apply compound immediately following the slab finishing. Apply curing compound in accordance with manufacturer's recommendations, covering all surfaces of slabs.

(6) Slab Finishes: Concrete slabs shall be screeded at elevations indicated and worked with a wood float until compact and free from depressions or inequalities of any kind. Screed, float, and trowel all poured concrete slabs to proper level and elevations with maximum tolerance of 1/8 inch to 10 feet. Slab level tolerance of 1/8 inch in 10 feet shall not vary in any direction when tested with a 10-foot straightedge. Drying of surface moisture before troweling shall proceed naturally and shall not be hastened by dusting on of dry sand or cement.

(a) Steel Trowel finish shall be provided for all interior slabs receiving floor covering or to be exposed. After concrete has hardened sufficiently to prevent fine material from working to the top, it shall be steel troweled, but extra working shall be avoided. Troweling shall not be begun until all surface water has disappeared. Floors receiving finish floor covering by other trades shall be acceptable to those subcontractors.

(b) Fine broom finish shall be provided for entrance slabs. Before concrete has taken final set, it shall be neatly broomed with a stiff brush or fine broom.

4. WATERPROOFING - DOWNSPOUTS:

(A) The following work (Items (A) (1) through (A) (8) of this Division) will be done under a separate contract.

(1) Clean all outside masonry surfaces.

(2) Repair all broken or missing concrete in exposed concrete areas on the exterior of the building.

(3) Apply one coat of masonry coating to the entire outside north and entire outside west elevation.

(4) Replace missing or broken brick.

(5) Cut out and caulk all: Concrete to brick joints, limestone to limestone joints, and limestone to brick joints.

(6) Cut out and caulk all lintel and lintel extensions, installing weep holes 16" on center.

(7) Reinforce all parapet walls and base flashings.

(8) Apply transparent waterproofing to all masonry surfaces.

(B) Remove all roof covering deck. Install a 5-ply built-up roof on all roof area with 400# gravel to each 100 sq. ft. The Contractor shall furnish direct to the Owner a written guarantee agreeing to repair all leaks, defects, or damage resulting from this work for a period of two years from the date of acceptance by the Owner.

NOTE: There will be erected on the roof an 80-foot antenna. (This will be done under a separate contract.)
Before the new roof is installed, the antenna base and 3 guy wire anchors must be installed. The base and

anchors will be furnished by the Owner and the locations shall be obtained from the Project Officer. A conduit will penetrate the roof near the base for the antenna cable.
(See Division 8, Electrical Work.)

5. WINDOWS:

(A) BASEMENT METAL WINDOW SASHES, FRAMES, AND TRIM - EAST WALL: Scrape, clean, and remove all loose putty. Replace cracked or broken glass and reglaze all new panes and those where loose putty was removed. Paint inside and outside surfaces.

(B) Remove windows from openings to be bricked up as designated on plans.

(C) Replacement of all other windows will be done under a separate contract.

Reference: Division 11, Masonry, and Division 16, Painting.

6. FLOORS:

(A) Concrete Surfaces: Remove elevated portions of floor on 2nd and 3rd floors (old restroom areas). Fill and level all floor areas (except as noted below) with a concrete adhesive mix. Filling and leveling shall be done after the installation of partitions. Any difference in floor levels shall be sloped at thresholds. Use a cement mix which includes a Bonding Adhesive--Bonsal or equivalent product, mixed and applied in accordance with manufacturer's instructions. The finished surfaces of these floors shall conform to the specifications in Division 3, Concrete Work, Paragraph (C) (6) (2) (b) entitled, "Slab Finishes."
(Note: The slope in the basement hall at the stairs and elevator shaft will remain as is.)

(B) Wood Surfaces:

(1) Radio Room and Restroom Area on First Floor: Pour a suspended concrete floor where the wood floor was removed. (Ref.: Divisions 1 and 3) Contractor shall submit plans and details for this floor to the Project Officer and shall proceed on it after approval of the Project Officer.

(2) Area in N.W. Corner of First Floor (approximately 20' x 33'):
Pour a suspended concrete floor where the wood floor was removed. (Ref.: Divisions 1 and 3) Contractor shall submit plans and details for this floor to the

Project Officer and shall proceed on it after written approval of the Project Officer.

7. DOORS AND FRAMES:

(A) DOORS:

(1) Front Entrances (2) and Rear Entrance: These will be furnished and installed under a separate contract.

(2) Internal Doors shall be 1-3/4" x 36" x 6' 8" (solid core or hollow core as shown on plans) constructed of Luan Mahogany.

(3) Roof House Door: Repair and Weatherstrip.

(4) Install a louvered 1-3/8" Luan Mahogany door to the air conditioning equipment room in basement. Because of the existing opening, this door may be set in standard wood frame with standard jamb, facing, etc.

(5) Locks: Use Kwikset "400 Line" locksets, or equal, for all interior doors. Additionally, install Kwikset Deadlock, or equal, on following doors:

3 in Chief Police Office,

1 in Records (Computer).

Master Key schedule will be furnished by Project Officer.

(6) Contractor shall furnish and install all hardware for all doors to meet minimum requirements of Fed. Spec. #160. Hardware shall be furnished with all necessary screws, bolts, and other fastenings of suitable size and type to anchor the hardware in position for heavy use and long life, and shall be left in perfect working order as outlined in the manufacturer's recommendations.

8. ELECTRICAL WORK:

(A) GENERAL: The installation of electric wiring and equipment shall comply with all local laws applying to electrical installations in effect and with the regulations of the National Electrical Code and the Georgia Power Company. The Contractor shall obtain all permits required, and after completion of the work shall furnish to the Project Officer a certificate of final inspection.

(B) STANDARDS FOR MATERIALS AND WORKMANSHIP: All materials shall be new and shall be listed by the Underwriters' Laboratories, Inc., as conforming to its standards in every case where such a standard has been established for the particular type of material in question. All work shall be executed in a workmanlike manner and shall present a neat and mechanical appearance when completed.

(C) GUARANTY: The Contractor shall leave the electrical system in proper order and, without additional charge, replace any work or material which develops defects, except from ordinary wear and tear, within one year from the date of the final certificate of approval.

(D) SCOPE: The work to be done under these specifications shall include the furnishing of all labor and material required to complete the installation of all electrical lighting fixtures, switches, convenience outlets, including wiring and controls to emergency generator; heating and air conditioning equipment; lights, vent fan; conduit for telephone; alarm system, antenna cable, and any other electrical equipment that may be shown on plans and drawings.

(E) TYPE OF WIRING: Interior wiring shall be non-metallic sheathed cable when not in conduit, minimum size No. 12, copper or copper-covered conductors. No exposed wiring shall be installed except in unfinished spaces.

(F) SERVICE CONDUCTORS AND FEEDERS: Shall be installed as shown on the drawing included in this specification. The Contractor shall determine from Georgia Power the type and location of service entrance and feeders.

(G) THE WIRING LAYOUTS are schematic and, except where dimensions are shown, are not intended to show the exact locations of runs or wiring. The Contractor shall refer to the plans and details for dimensions and shall fit his work to conform to the details of the building construction, properly coordinated with the work of other trades.

(H) CONDUITS:

(1) All wiring shall be installed in conduit unless otherwise specified herein. All conduit shall conform to the standards of the Underwriters' Laboratories, Inc.

(2) Except where terminating in a threaded hub fitting, all conduits shall terminate in outlet boxes, junction boxes, pull boxes, cabinets, etc., with one locknut installed outside the box and locknut and a bushing inside the box. The locknuts shall

be tight to make both a mechanical and electrical connection. Bushings for all rigid conduit shall be O.A. Manufacturing Co., Type B insulating and bushing, and shall be grounding type where required.

(3) EMT couplings and box connectors shall be compression type, all steel, rain tight and concrete tight, as manufactured by Appleton, Steel City, or T & B.

(4) Ends of conduit shall be sufficiently plugged or covered during construction to prevent mortar, concrete, etc., from entering.

(5) No lubricants other than powdered soapstone or soapstone products shall be used to facilitate the pulling of wires. Lubricants shall be used on all feeder cables as otherwise required.

(I) OUTLETS AND WALL SWITCHES: Lighting outlets, convenience outlets, and wall switches shall be installed where directed. All outlets and switches shall be accurately located. Wall switches shall be located four feet above the floor. Convenience outlets shall be 18" above the floor, except as indicated otherwise on the drawings. Contractor shall specifically verify all door swings and install all lighting switches as approved. Boxes for fixtures and devices shall be securely attached to the building structure, using wood screws for wood construction, expansion bolts for concrete, and bolts or

clamps for steel construction. Boxes set in concrete shall be secured in place with cement mortar.

(J) MATERIALS: Wall switches shall be a silent type. Convenience outlet receptacles shall be grounding type, duplex plug receptacles, designed to handle either parallel blade or grounding type attachment caps. Switch and receptacle plates shall be ivory or brown plastic.

(K) WIRING FOR HEATING AND AIR CONDITIONING SYSTEM: The Electrical Contractor shall provide power wiring to equipment locations. The Heating and Air Conditioning Contractor will make final connections to the equipment and will install thermostat wiring.

(L) CONDUIT FOR TELEPHONE, ALARM SYSTEM, AND ANTENNA CABLE: This Contractor is to install correct size and type conduit for telephones, alarm system, and antenna cable from locations in each room as shown on plan to the service entrance (in the case of the antenna cable, to the antenna base on the roof). The Contractor shall determine from the Service Company involved the locations of the service entrance and other feeder panels. The conduit is to have a pull wire installed for later use.

9. PLUMBING:

(A) CODES AND ORDINANCES: The installation of the plumbing system shall conform in every respect to all applicable local plumbing codes, ordinances and regulations.

(B) EXCAVATING AND BACKFILLING: Excavating and backfilling necessary for the installation of underground piping shall be done by the Plumbing Contractor.

(C) CUTTING, PATCHING, CHASES, ETC.: The Plumbing Contractor shall specifically inform the General Contractor of the size and location of all chases, openings, supports, etc., which his work may require, and the General Contractor shall be responsible for the construction of same. He shall do all necessary cutting for installation of pipes, avoiding cutting wherever possible, but in no case cutting supporting members of construction.

(D) TESTS: This Contractor shall make all tests as called for in the presence of the Project Officer. Any leaks that may appear shall be repaired by the Contractor without extra charge, and the tests repeated until the piping is shown to be perfectly tight.

(E) CAST IRON PIPE: Cast iron pipe shall conform to ASTM Spec. A-74 and shall be coated; "extra heavy" for all underground work (where necessary), and "service" weight for all other work. Cast iron pipe and fittings shall be used for all soil, waste, and vent piping unless otherwise specified.

(F) JOINTS IN CAST IRON PIPE: Joints in cast iron pipe shall be firmly packed with oakum or hemp; run with lead, flush with the hub, using about 1 pound of lead to each inch of diameter of pipe, and caulked.

(G) WATER PIPING: Water piping shall be Chase or Streamline copper tubing Type L for underground piping (where necessary), and Type M hard temper for piping above ground. Copper tubing shall be assembled with Chase or Streamline solder type copper or brass fittings. Solder and flux shall be the types recommended by the fitting manufacturer for plumbing services; solder shall contain not less than 50% tin.

(H) SEWER: Connect building sewer to street sewer.

(I) SOIL, WASTE & VENT PIPING: Soil, waste and vent piping shall be of sizes required by code. All offsets shall be made at an angle of not less than 45 degrees to the horizontal. All turns shall be made with large bends and all branches with Y's. Pipe stacks shall be firmly supported at the base in an approved manner, and elsewhere on approved iron pipe hangers.

(J) CLEANOUTS: Readily accessible cleanouts shall be placed on all horizontal lines, at the base of all risers, and where required by code.

(K) FLASHING OF VENT PIPES: Where vent pipes pass through the roof, the joints shall be made watertight with approved special flashings or sleeves of 6 lb. sheet lead enclosing the pipe on all sides. Vents shall not be located on outside walls of the building.

(L) WATER SUPPLY PIPING: Contractor shall furnish and install a 2" water supply pipe from the street to the basement, first, second and third floors. Separate 1" line shall be installed from the 2" main to the water heater and to each fixture.

(M) VALVES: Valves, except at fixtures or where otherwise specified, shall be polished cast brass valves of the full size of the pipes they control. At the base of each riser of water pipe there shall be a compression stop and drain valves. All valves shall be located in accessible places.

(N) FIXTURES: Brand names are Kohler products. Use these products or an equal quality product.

(1) WATER CLOSETS:

#K4282ET Bowl w/1-1/2" top spud

#50E Sperzel White Open Front Seat YB Sloan Royal Flush Valve.

#115 YB Sloan Royal Flush Valve

#K-4562 Bolt Caps

(2) WALL HUNG LAVATORIES:

#K-2861 19 x 17 Kohler Lavatory.

#K-7404-T Kohler Lavatory Fitting.

#K-7715 1¼" Kohler Waste Fitting.

#R-1912A Brasscraft Lavatory Supplies w/Swt. Stops.

#10-1-D-1¼" CS&B Co. "P" Trap.

(3) COUNTERTOP LAVATORIES:

#K-2904 19¾ x 16¾ Kohler Lavatory.

#K-7404-T Kohler Lavatory Fitting.

#K-7715 1¼" Kohler Waste Fitting.

#R1912A Brasscraft Lavatory Supplies w/Swt. stops.

#10-1-D 1¼" CS&B Co. "P" Trap.

(4) URINALS:

#K-5014-T Kohler Unrinal.

#180YVYB "Royal" Flush Valve.

(5) SHOWER STALLS:

#K-1436 Kohler Shower Stall.

#K-9130 Kohler Shower Strainer.

#K-7226-T Kohler Shower Valve.

#F-28 Tub-Master Shower Door.

(6) ELECTRIC WATER COOLERS:

#WM8A Halsey Taylor Electric Water Cooler.

#10-1-D 1¼" CS&B Co. "P" Trap.

(7) SERVICE SINK:

#K-6716 22' x 16" w/Rim Guard.

#K-6673 3" Trap Standard w/Strainer.

#K-8906 Service Sink Fitting.

(8) WATER HEATER:

#KEN80D Smith Electric Water Heater 4500/4500

#10XL Watts T & P Valve

(9) LIQUID SOAP DISPENSER:

20 g. metal w/glass container -
1 for each lavatory -
Allow $23.94 each

(10) TOILET PAPER HOLDER:

Chrome plated - 1 for each water closet.
Allow $7.65 each.

(11) MIRROR:

Stainless steel rim - theftproof fastener
1 for each lavatory - allow $26.60 each

(12) PAPER TOWEL DISPENSER:

White enamel - 1 for each restroom.
Allow $6.33 each

(13) FLOOR DRAINS:

2" Richmond, w/adjustable strainer,
w/18" coppertone pan

10. HEATING, VENTILATING AND AIR CONDITIONING:

This division and the accompanying drawings cover furnishing all plant, labor, equipment, appliances and materials, and in performing all operations in connection with the installation of a complete air conditioning and heating system. System shall be complete in all respects including all of the incidental items necessary but not specified.

(A) EQUIPMENT, MATERIALS, BID BASIS:

(1) Manufacturer's names, model numbers, as specified herein are for the purpose of describing type, capacity, function, and quality of the equipment and material to be used.

(2) Unless "or equal" is specifically stated, bids shall be based on the equipment named in the specifications or on the drawings.

(3) Alternate prices may be submitted, showing the amount of deduct to bid, for using equipment by manufacturers other than specified.

(4) "Equal product" and "or equal" items listed shall conform to specified base items and shall substantially equal in weight, construction, capacities.

(B) INSTALLATION - GENERAL:

(1) All equipment and materials shall be completely installed, adjusted, complete with all accessories and connections.

(2) Piping and equipment shall fit into spaces provided in the building and shall be installed at such times and in such a manner as to avoid damage to the building and as required by the job progress. Contractor shall coordinate work with other trades and locate work covered herein to avoid undue interferences with structural, electrical, or architectural

work. Equipment, accessories and similar items requiring normal servicing or maintenance shall be easily accessible.

(3) Contractor shall coordinate work so that structural work is properly installed to accommodate work under this section.

(4) Installation shall be in accordance with ASHRAE Guide and manufacturer's recommendations.

(C) GUARANTEE:

(1) Nothing herein contained shall be construed as to relieve the Contractor of the responsibility of making a first-class and workmanlike installation in every respect. Should any defect develop due to faulty workmanship or materials during a period of one (1) year from date of acceptance by the Owner, the Contractor shall replace or repair and make good without additional cost to the Owner.

(2) Standard manufacturer's guarantees or warrantees in excess of period stated above, shall be secured and delivered to the Owner.

(D) EQUIPMENT AND MATERIAL PROTECTION:

(1) During construction all equipment shall be properly protected against damage, defacing, and freezing, by the use of shipping cartons, plastic sheeting, or other appropriate means.

(2) All open ends of piping, ducts, equipment, shall be sealed with nipples and caps, plugs, covers, until connection to system is made.

(E) FOUNDATIONS, SUPPORTS & SUPPLEMENTARY STEEL:

All concrete foundations and all supplementary supporting steel, required for equipment shall be furnished and installed.

(F) INSTRUCTIONS & DIAGRAMS:

(1) Contractor shall prepare three (3) instruction manuals covering installation, operation, and maintenance of the equipment and piping system. Manuals shall contain copies of all manufacturer's drawings, pamphlets, data, parts lists, instructions. These neatly bound manuals shall be turned over to the Owner prior to acceptance of the job.

(2) Contractor shall provide the services of a skilled technician to instruct the building operator in the proper operation and maintenance of all systems.

(G) SHOP DRAWINGS:

(1) Within four weeks after award of the contract, the Contractor shall submit five (5) copies of shop drawings in brochure form for approval. Each brochure shall contain one copy of all submittal data. Submittals shall include manufacturer's recommendations for installation.

(2) All literature shall clearly indicate the specified model number, dimensions, arrangement, ratings, and characteristics of the proposed equipment. Capacities and ratings shall be based on conditions indicated or specified herein. Any deviations from specified material or equipment shall be clearly noted in red.

(3) Should any equipment furnished by Contractor differ radically from base bid items indicated or specified herein, and which may require added cost to other trades, it shall be the Contractor's responsibility to assume the extra cost involved.

(H) ELECTRICAL WORK:

(1) Except as otherwise specified or noted, electrical equipment shall be as specified herein.

(2) Motor controls, system controls, starters, pilot lights, push buttons, etc., shall be furnished by the Contractor complete as a part of the motor or apparatus which it operates. Electrical equipment shall be ordered and wired for the voltage as shown on the Electrical Plans.

(3) Motors shall be standard NEMA continuous duty type. Each motor shall have ample capacity to drive the equipment to which it is connected, at its full load capacity without loading the motor beyond its nameplate rating. All motors shall have overload protection.

(4) Starters shall be Allen-Bradley as specified herein. Starters for motors 1/3 HP and smaller shall be manual type AB Bulletin 600; for 1/2 HP and larger, magnetic type, AB Bulletin 709. Starters for motors with remote or automatic control, shall be magnetic type. Relays, interlocks, and auxiliary contacts, shall be provided as specified and required.

(5) Motor controls shall be either "Hand-Off-Auto" switches AB Bulletin 800 or "On-Off" push button switches with pilot light. AB Bulletin 800 "Hand-Off-Auto" switches shall be provided for automatically controlled apparatus.

(6) Motor starters not an integral part of equipment shall be installed under Electrical. Disconnect switches shall be provided and installed by Electrical Contractor. (See Division 8 - Electrical Work.)

(7) This Contractor shall provide all system controls, line and low voltage control and interlock wiring. Thermostats shall be furnished to operate the air conditioning units by the unit manufacturer and will be installed by the Contractor where shown on the plans. Thermostats will be the autmoatic changeover type for 24 volt operation.

(8) All starters, control devices, shall be surface mounted type when installed in concealed areas. Flush mount when in public areas.

(9) All starters for three (3) phase equipment shall have overload devices in all three phases.

(10) Equal products of Westinghouse, General Electric, Square D, Cutler-Hammer will be acceptable.

(I) SYSTEM CONTROL AND ALARM PANEL:

(1) Contractor shall furnish and install a factory assembled system control and alarm panel by the Singer Company, or an equal system control, to:

(a) Control the means of adding supplemental heat to the closed loop.

(b) Control the operation of a closed loop evaporative cooler in stages in response to loop water temperature leaving the cooler.

(c) Indicate the operating condition of the system water circulating pump and evaporative cooler sump heater.

(d) Sound alarm to indicate an abnormal operating condition as hereinunder outlined.

(2) This panel is to be furnished complete with controls, capillaries and wells, relays, pilot lights, alarm horn, terminal strips, a nine inch scale adjustable angle thermometer and separable well. Power supply to the panel shall be 115/1/60. Contractor shall install wells, flow switch, and thermometer in the main leaving line from the evaporative cooler before filling system. Contractor shall furnish and install all field wiring from control panel to cooler fan and spray pump motor starters, supplemental electric boiler control circuit, flow switch and from starters and sump heater contactor auxiliary contacts to pilot signals on panel.

(3) The sequence of operation from this panel shall be as follows:

(a) On a loop temperature fall to 70° F., control shall energize holding coil of the supplemental electric boiler control relay and an amber pilot light shall illuminate. The contacts of this relay shall close the pilot circuit on the supplemental electric boiler. On a loop temperature rise to 73° F., the control shall cut off the supplemental heat circuit.

(b) On a rise to 83° F., control shall close starter circuit to recirculating spray pump motor and a white pilot light shall illuminate.

(c) On a rise to 85° F., control shall close starter circuit to fan motor on evaporative cooler and a white pilot light shall illuminate.

(d) On a fall in loop temperature leaving cooler, the sequence shall take place in reverse order at not more than 3° F. differential below the above specified operating points.

(4) The panel shall contain immersion alarms and capillaries arranged to sense loop temperature and function as follows:

(a) On a fall in loop temperature to 10° F. below the supplemental electric boiler set point, sound the alarm horn, illuminate a red pilot light and open all cooler pump and fan motor circuits.

(b) On a rise in loop temperature to 105° F., sound alarm horn and illuminate a red pilot light. Cooler spray pump and fan motor circuits continue to operate.

(5) The panel shall contain a terminal strip for connecting the leads from a McDonnel-Miller flow switch. This switch shall be furnished by the panel manufacturer for mounting and wiring by the Contractor as shown on the plans. This flow switch shall be set to sound the alarm, illuminate a red pilot light and open all cooler spray pump and fan motor circuits, on sensing insufficient flow in the main leaving the cooler.

(6) The control panel is to be mounted in close proximity to the loop water main leaving the cooler. Manufacturer is to supply all temperature sensing bulbs with 20 foot capillaries and sensor bulb wells shall be copper. An internal wiring diagram and one spare fuse shall be provided and secured within panel enclosure. Manufacturer shall furnish a field wiring diagram as part of the

submittal data. Control panel will have sufficient 120V terminal strip contacts to allow connection at any time of a remote repeater panel if so desired by Owner.

(7) A one year warranty shall be provided by Contractor for furnishing parts and labor for replacing any part of the operation from the date of initial operation.

(8) Manufacturer's representative shall check out installation of this panel in the presence of the Contractor and shall verify the settings of controls and alarms as specified.

(J) FLEXIBLE CONNECTIONS:

Provide flexible duct connections to all air conditioning units. Flexible connections shall be 30 oz. Neoprene coated glass fabric. Flexible connections shall not be less than 4" long and shall have metal collar frame at each end. Allow at least 1" slack in fabric to eliminate vibration transmission.

(K) INSULATION:

(1) All supply and return air ducts in concealed spaces shall be insulated with Owens-Corning minimum 3/4 lb. density glass fiber insulation with .002" aluminum foil flame resistant vapor barrier. Insulation shall be applied with adhesive at one foot intervals and the materials shall be further held in place by use of soft annealed wire, 9" on centers. Material shall be butted with joints taped with same material as facing. Insulation on underside of ducts over 18" wide shall also utilize ductpins.

(2) Supply and return plenums shall be lined with 1" thick Owens-Corning 2# density duct liner with Neoprene spray coating. Duct liner shall be applied by adhering the liner in a continuous piece to clean, flat metal sheets with a rubber-base adhesive. Coated sides of duct liner shall face the airstream. All exposed edges shall be pointed and coated with adhesive. Ducts over 18" wide or deep shall have the liner additionally secured with stud welding pins and clips. Where ducts are lined, other types of insulation will not be required.

(3) Supply ductwork, for a minimum distance of eight (8) feet from the air conditioning unit discharge, shall be internally insulated as described above, with duct liner for both insulation and acoustical purposes.

(L) LOW VELOCITY DUCT SYSTEM:

(1) All ductwork shall be fabricated in accordance with the SMACNA Duct Manual.

(2) Reference Standards: "Duct Manual" shall mean the current edition of the "Duct Manual and Sheet Metal Construction for Ventilating & Air-Conditioning Systems, Section I, Low Velocity Systems" as published by the Sheet Metal and Air Conditioning Contractors National Association. NFPA-90A shall mean the current edition "Installation of Air Conditioning and Ventilating Systems" as published by the National Fire Protection Association.

(3) Fabrication: All ductwork shall be fabricated of galvanized steel in accordance with Table 1 and Plates 5 through 15A of the "Duct Manual."

(4) Hangers: Construct in accordance with Plates 16 through 20 of the "Duct Manual."

(5) Elbows: The radius to be constructed in accordance with Plate 21 of the "Duct Manual." Vaned elbows shall be used where 90° elbows are shown or needed at the unit discharge, and shall be constructed in accordance with Plate 22 of the "Duct Manual."

(6) Tee Connections: To be constructed in accordance with Plate 26, Figure B, of the "Duct Manual."

(M) FIRE DAMPERS:

Provide NFPA 90A listed fire dampers where ducts pass through fire rated walls, floors and rated ceilings as required by NFPA and local code. Provide access door for each damper. Dampers shall bear U.L. label.

(N) PIPE, VALVES, AND FITTINGS:

(1) Unless otherwise noted or specified, pipe, valves, and fittings for the system shall be as specified herein.

(2) Shut off valves shall be gate valves, 2" and smaller, and shall be bronze and brass throughout with boxes, nuts, and screwed bonnets, 125# operating pressure, rising stem. Valves shall have back seats for packing under pressure, gland followers and shall be individually tested. Valves shall be Jenkins 47U or 651A or screwed or flanged respectively, and Fig. 1242 for sweat.

(3) Globe and check valve construction and sizes shall conform to that given above and shall be Jenkins Fig. 762A, 624, 750, and 613. Shut-off valves 2 1/2" and larger shall be Demco butterfly type with EPT seat and aluminum-bronze disc, with 100 percent shut-off at 125 PSIG, fully field serviceable, with lever handle. Check valves 2 1/2" and larger shall be Mission Duo-Check.

(4) Strainer shall be McAlear No. 539, bronze screwed 2" and smaller for 300 psig WWP, and cast iron flanged for 2 1/2" and larger for 250 psig WWP. Strainer perforations and materials shall be suitable for installed service. Provide each strainer with nipple and plugged gate valve for blowdown.

(5) Welded fittings shall be Taylor Forge, Tube Turns or Midwest fittings of same material and classification as pipe. All welding shall be performed by a qualified welder, in accordance with the standards of the American Welding Society.

(6) Supply and return pipe shall be Schedule 40, welded black steel; fittings shall be welded type ASTM-A53-68 for 1 1/2" size and larger, and screwed malleable iron for 1 1/4" and smaller. Elbows shall be long radius type.

(7) Provide valves on each side of each major item of equipment, specialty, and elsewhere as required for proper maintenance and repair of system and equipment.

(8) Equal products of Walworth, Rockwell, Jenkins, Stockham, Nibco/Scott or Crane will be acceptable.

(O) PIPE SUPPORTS AND HANGERS:

(1) All piping shall be supported by means of hanger rods and pipe hangers from floor or roof construction using supplementary steel and beam clamps.

(2) Piping shall be supported from new concrete with Grinnell Fig. 282 inserts, and from existing concrete with Phillips self-drilling expansion shells. Piping and brackets shall be supported from hollow block construction using masonry drilled holes and toggle bolts.

(P) DRAIN PIPING SYSTEM:

(1) Provide all drain piping and fittings from equipment so requiring.

(2) Provide drainage lines as indicated or required for various items of equipment, including cooling tower bleed, overflow, and drain; air vent drain; boiler drain. Terminate drains over nearest floor drain.

(3) Condensate drain piping from the air conditioning units shall be Schedule 40 PVC and shall be properly pitched to nearest drain point.

(Q) GRILLES, REGISTERS, DIFFUSERS, ETC.:

(1) Provide grilles, registers and diffusers as manufactured by Krueger Manufacturing Company.

(2) Ceiling Supply Diffuser (Square): Series 1100, perforated face, with opposed blade volume control. Baked white enamel finish.

(3) Sidewall Return Grilles: Series ALS580H, aluminum finish.

(4) Ceiling Return Grilles: Series EGC-5, 1/2" x 1/2" egg crate core.

(5) Ceiling Exhaust Registers: Series EGC-5, 1/2" x 1/2" egg crate aluminum core and opposed blade volume control.

(6) Door Grilles: Series 77-C (core only) of sizes as required to suit door construction. Coordinate with doors. Furnish for installation under General Construction Work.

(7) Extractors: Provide Series EX88A for each supply register and diffuser. Shall be adjustable through grille or duct.

(8) Finish shall be of type and color selected by Owner. Representative shall contact Owner and show approved finish on shop drawing submittal.

(9) Equal Products: Carnes, Tuttle & Bailey, Barber-Colman, Titus, Metal-Aire, Airguide.

(R) PRESSURE GAUGES:

(1) Pressure gauges shall be bourdon tube type with polished stainless steel case and bayonet ring. Replaceable plexiglass face shall have weatherproof gasket. Pointer shall be adjustable over the entire range. Dial shall be 4 1/2" diameter with red set hand. Accuracy shall be guaranteed to be within 1 percent of the full scale range.

(2) Range shall be 0 to 60 PSIG.

(3) Use Ashcroft 4 1/2" - 1020A or equal as manufactured by Marsh, Weksler, Moeller, Trerice.

(S) THERMOMETERS:

Thermometers shall be solid liquid filled dial type with polished stainless steel case, bayonet ring and stem. Plexiglass window shall have weatherproof gasket. Pointer shall be adjustable over the entire range. Dial shall be 4 1/2" diameter. Stem length, unless otherwise required, shall be 2 1/2". Accuracy shall be guaranteed to be within 1 percent of the full scale range. Thermometers for uninsulated lines shall be equipped with brass separable socket. Range shall be 0 to 250° F. temperature. Trerice Type L80742 or equal as manufactured by Marsh, Weksler, Moeller, Ashcroft.

(T) EXPANSION TANK:

Tank shall be American Tube Company liner type, ASME approved and stamped for unfired pressure vessel service, 125 psig working pressure.

(U) ELECTRIC UNIT HEATER:

(1) Provide electric wall type unit heater as manufactured by the Singer Company, Series 5900, or an equal type unit heater, of capacity as shown on the plans.

(2) Shall be complete with wall box, heating element, automatic thermostatic control, limit switch, fan delay switch, circuit breaker, recessed lock, and U.L. approved.

(V) AIR CONDITIONING UNITS:

(1) Contractor shall furnish and install water source heat pump conditioners where shown on the plans, with capacity and characteristics as listed in the schedule. The base bid shall cover equipment as manufactured by the Singer

Company, or an equal product.

(2) Conditioner shall be the floor mounted closet type with horizontal air inlet, vertical discharge and maximum dimensions indicated. Casing shall be lined internally with acoustic type fiberous glass and shall be constructed with a 14 gauge galvanized steel base pan. Panels shall be provided and labeled, for electrical access, blower, motor and compressor access, all at right side when facing filter. All internal parts subject to water exposure shall be coated with a baked-on thermo-setting plastic.

(3) Conditioners shall be mounted on rubber waffle type pads.

(4) Conditioners shall contain a sealed refrigerant circuit, consisting of a hermetic motor-compressor, with air-to-refrigerant finned tube coil, capillary expansion tube, refrigerant reversing valve pilot operated, water-to-refrigerant coaxial tube exchanger, high pressure and low temperature safety cutouts factory installed on the refrigeration circuit. Cutouts shall be wired through a factory installed lock-out relay to hold conditioner off until it is electrically reset at the circuit breaker regardless of the wall thermostat switch position. Manual reset of cutout at unit will not be allowed.

(5) Manufacturer shall guarantee unit to start and operate at a minimum ambient temperature of 40° F. with specified water flow at 80° F. entering water temperature.

(6) A control panel shall be factory mounted within the unit enclosure and shall contain relays for blower, compressor and reversing valve, and a 24 volt low/line voltage transformer completely factory wired.

(7) Thermostat and subbase for wall mounting shall be as detailed on plans and shall be furnished by conditioner manufacturer. Automatic changeover, needing four (4) field installed low voltage wires.

(8) Conditioner blower shall be direct drive (no belts), centrifugal type, designed to produce specified air volume (CFM) at specified external static pressure at the input voltage specified. Blower motor speed for all models shall not exceed 1200 RPM synchronous speed. Motor shall have a normal two year lubrication capacity and shall be initially lubricated at the factory. Externally accessible oiler tubes shall be factory installed and motor shall be lubricated once a year as part of normal maintenance.

(9) Conditioner shall be provided with one inch thick cleanable type air filters installed in a four-sided slide-in channel at the air inlet. Contractor shall remove one side in field to accommodate the direction of the most accessible filter pull. Piping and electrical connections shall be so located to eliminate interference with removal and replacement of filter.

(10) Supply and return connections shall be 3/4" FTP copper fittings and brazed to exchanger copper water tubes. The connection sub-assembly shall be mechanically fastened to the unit for rigidity. Manufacturer shall furnish a pair of 3/4" hose kits consisting of adapters to fit unit coil connections, suitable fittings and 24" length of Parker-Hannifin "Push-Lok" flexible hose, including swivel nut and male pipe by hose fittings, necessary couplings. Contractor shall furnish 3/4" bronze shut-off plug valves as manufactured by Crane Cat. #2180 or Kennedy Fig. 300 to complete the conditioner piping.

(11) The loop water piping system shall be installed to provide a self-balancing two-pipe reverse return arrangement. Condensate drain piping shall not be less than 3/4" PVC, Schedule 40. Units are trapped, internally. Provide city water make-up, expansion tank, air separator, installed in accordance with local codes and accepted practice.

(12) It is <u>essential</u> that the finished piping system be thoroughly flushed free of foreign material and construction debris. Install a strainer in system line at pump suction. Flush system <u>prior</u> to final connection to any conditioner by means of loop bypass between supply and return at each unit location. The hoses for final unit connection should first be used for the loop bypass.

(13) Conditioners shall be furnished for the specified voltage and phase shown on plans, and shall be guaranteed for operation at plus or minus ten percent of rated voltage.

(14) A one-year warranty shall be provided by Contractor for furnishing labor to replace any part of the unit which may become defective in normal operation from the date of first operation. Parts shall be covered by manufacturer's standard first - year warranty. In addition, the entire hermetically sealed motor compressor assembly and all components of the refrigerating circuit not readily separable therefrom, shall be warranted to the Owner for five (5) years. Repairs under this warranty shall be made at manufacturer's expense, provided that the conditioner is delivered to and picked up from the authorized repair station.

(W) HEAT REJECTOR (EVAPORATIVE COOLER):

(1) Contractor shall furnish and install a factory assembled (two sections) closed circuit heat rejector (evaporative cooler) of sectional counter-flow blow-through design as furnished by the Singer Company, manufacturer of the closed water circuit heat pumps, or an equal product.

(2) The evaporative cooler shall have centrifugal blower assemblies built into the pan, with all moving parts factory mounted and aligned. The cooler shall be internally baffled. Unit construction shall be all hot-dip galvanized steel and additionally protected with Zinc Chromatized Aluminum finish after assembly. The combination pan-fan

section shall consist of heavy-gauge hot-dip galvanized steel angle framework, hot-dipped galvanized V-shaped self cleaning pan and centrifugal fans mounted beneath the sloping undersides of the pan.

(3) The cooler shall have the capacity to cool the circulating loop water as required, with a 95/78° F. outside design.

(4) Cooler shall be furnished with drip-proof ball-bearing fan motor and V-belt drive suitable for outdoor service. Motor shall be 7½ HP, 208/3/60.

(5) Cooler shall be furnished with a spray water recirculating pump and motor, completely piped, with 1/2 HP, 208/3/60 motor.

(6) Cooler shall be furnished with a sump water heater of 1.9 KW, 208/1/60, capacity to maintain sump water at approximately 40° F. at the winter design dry bulb temperature with spray water pump and fans turned off.

(7) The sump heater shall be complete with outdoor thermostat, sensing bulb, probe and level switch to prevent heater operation unless element is fully submerged.

(8) Contractor shall insulate all outdoor condenser water piping, make-up water piping, drains, spray water piping, and spray pump casing. Provide electric heat tape under the insulation of the spray water piping, make-up water piping, and spray pump casing.

(X) SUPPLEMENTAL ELECTRIC BOILER:

(1) Provide package type electric hot water boiler, Model No. 120BHW3, as furnished by The Singer Company, or an equal product, sized for 120 KW at 208/3/60 voltage.

The pressure vessel and integral electric panels shall be mounted on a unitary steel frame with proper supports, insulated and enclosed in a metal jacket.

(2) The pressure vessel shall be of all welded steel construction, designed for a working pressure of 160 PSI in accordance with the ASME Boiler & Pressure Vessel Code and stamped with the appropriate ASME symbol.

(3) A temperature actuated modulating step controller shall be provided with six (6) steps of heat. A high temperature limit control and reversing relay shall be provided. All control circuits shall be 120/1/60 to be supplied by a factory installed step-down transformer of the proper size. An indicator light shall be provided for each step of the step-controller. Unit shall have a panel mounted dial type thermometer, a panel mounted pressure gauge, and a ASME safety relief valve.

(4) The entire unit shall bear the U.L. label. All work performed at the factory and on the job site shall comply with the National Electrical Code and all other local codes. The main busing at the panel shall be equipped with lugs of proper size for the incoming feeder cables. Fuses shall be Class "J" (silver link-sand filled type). Fuses shall be provided so that both sides of the line are fused.

(5) The boiler shall be equipped with immersion type heating elements mounted in standard 150 lb. A.N.S.I. flanges. Each element shall be mechanically mounted and field replaceable without welding or brazing. Unit shall be preassembled, prewired and tested at the factory.

(Y) CLEANING AND FLUSHING:

(1) Circulation Start-Up Before Cleaning & Flushing:

(a) Before the piping system is complete, Contractor shall connect supply and return run-outs together at each heat pump location. This connection shall be made by coupling the two rubber hoses together.

(b) System shall be filled at city water make-up connection, with all air vents open. After filling, vents shall be closed.

(c) Start main system water circulating pump, with pressure reducing valve make-up open. Vents shall be checked in sequence to bleed off any trapped air in order to assure circulation through all of the components of the system.

(d) Contractor shall energize supplemental heat source (electric boiler) and set control to 90° F. loop temperature. Power must be off to all heat pumps and cooling tower motors.

(2) Cleaning & Flushing the Water Circulating System:

(a) Extreme care shall be exercised by Contractor to prevent dirt and other foreign matter from entering pipe or components of system during construction. Before erection, each piece of pipe, fitting, or valve shall be visually examined and all dirt removed.

(b) With system filled, circulation established, trapped air vented and electric boiler turned on, then check water thermometers installed at key points of

system to determine that loop water temperature is approximately 90° F. Any leaks in piping shall be repaired before proceeding. Drain at lowest point in equipment room shall be opened for initial flush and blowdown, making sure city water fill valves are set to make up water at same rate. Check pressure gauge at pump suction and manually adjust make-up to hold same steady positive pressure before and after opening drain valve. In no case shall flushing period be less than two hours.

(c) The electric boiler and system circulating pump shall then be shut off. All drains and vents shall be opened to completely drain down the system. The close-coupled supply and return connections at each heat pump shall now be reconnected permanently to respective inlets and outlets on each machine.

(d) Each condensate connection shall also be made up, making sure there is a steady pitch away from unit. When connecting hoses, a commercial brand of Teflon tape pipe thread sealer shall be used to minimize fouling of the tubes.

(e) System shall be refilled for operation under normal closed loop conditions. Contractor shall add trisodium phosphate in an aqueous solution to system, prepared in proportion of one (1) pound per every fifty (50) gallons of water in the system. After system is filled with this solution, the pump

11. MASONRY:

(A) MASONRY MATERIALS:

(1) Face Brick: All exterior brickwork shall be standard size face brick. Allow $60.00 per thousand for the cost of the face brick to be selected by the Project Officer.

(a) Mortar to be Type N.

(b) Brick are to be laid so that three brick courses equal one 8" block course vertically.

(2) Concrete Block: Concrete Masonry units, lightweight, 2 or 3 cell, Type 1, Grade P-1, non-load bearing conforming to ASTM Standard C129-64.

(3) Masonry Reinforcement:

Joint reinforcing for interior concrete masonry walls and partitions shall be two parallel 9 gauge flush or butt welded cross wires spaced 16" o.c. or 9 gauge trussed cross wires. Width of reinforcement shall be as standard with manufacturer for thickness of wall involved.

(4) Mortars:

(a) Masonry Cement: ASTM C-91, Type II

(b) Hydrated Lime: ASTM C-207, Type S

(c) Sand: ASTM C-144.

(d) Water: Clean and suitable for drinking.

(e) Admixtures - Water repellent: For exterior mortar, Master Builders' Omicron Mortarproofing.

(f) Anti-freeze Compound: None permitted.

(g) Air-Entraining Agents: For use in cement-lime mixes (ASTM-C-260).

(h) Mortar Mix Compressive Strength: Type N: ASTM C-270,750 p.s.i. - three 2" cubes at 28 days.

(i) Masonry cement for face brick shall be of one manufacturer and manufactured in one plant only.

NOTE: A manufactured type mortar mix may be used with the approval of the Project Officer.

(B) WORKMANSHIP:

(1) General: Workmanship shall be of the best type and quality by skilled masons. The laying out of vertical and horizontal coursing shall be carefully and accurately done. The tooling of mortar joints shall likewise be accomplished in a uniform manner. Care shall be exercised at all times not to smear mortar on face brick work to facilitate cleaning the masonry as specified hereinafter. Bed and head joints shall be butted solid. Jambs and heads of all steel door frames shall be filled solid with mortar.

(2) Laying Face Brick: Carefully lay out to determine exact dimensions of horizontal joints so that they will work reasonably uniformly without producing bats smaller than a header brick. Lay all courses

level with faces of the units in true vertical plane. Bond and pattern to be common running stretcher - exposed joints to be concave.

(3) Laying Concrete Masonry Units:

(a) Laying shall be by competent mechanics experienced in concrete block work. Do not use wet blocks at any time. If suction due to block dryness is excessive, use higher water-retentive mortar. Work to be plumb, level, uniformly coursed, in true plane, and having intersections and corners true 90 degree angle except as otherwise indicated or specified. Tops of concrete masonry walls and partitions, unless otherwise indicated, shall be wedged and grouted hard against masonry ceilings or beams.

(b) Where pressed metal door frames occur in concrete block masonry, heads and jambs shall be filled solid with mortar.

(c) Erect masonry only when temperature is above 40 degrees F. and rising. Any work where joints become frozen more than 1/2" deep from face shall be removed entirely and rebuilt. Protect masonry from freezing for 48 hours after being laid.

(d) Provide all closes and openings in walls as required for the work included under other Divisions. Leave openings as required to receive future installations. After duct work has been installed, fill in masonry to close up openings.

(e) Cutting and fitting of concrete block shall be done by masonry mechanics with proper masonry saws. Cut-outs required for installation of electric outlets, conduits, pipe sleeves, and various accessories of the different trades shall have the required opening cut, not broken, out.

(f) Where minor partitions intersect major partitions, and at control joints noted on the drawings, joints shall be raked 3/4" and caulked.

(g) Concrete block units which have been wetted shall not be used until allowed to air dry for seven days, and only then may be used if freshly broken web and face surfaces of a typical unit show no visible evidence of moisture.

(h) Use precast 4" x 8" lintels to wall units.

(i) All joints in concrete block shall be neatly tooled with a concave type joint.

(j) All concrete masonry units shall be laid on a running bond.

(4) Installation of Joint Reinforcing:

(a) Joint reinforcing shall be installed every 16" o.c. vertically and in top course. Wall openings shall be reinforced in the first two courses above and in the first course below, and shall extend not less than 18" past each jamb of the opening.

(b) At control joints terminate the reinforcement within 1" of each side of the vertical caulked joint.

(c) At splice joints lap reinforcement 6" minimum.

(C) CLEANING OF BRICK WORK:

This shall be essentially a continuing operation, carried out as the masonry work progresses. Brush down the faces of the walls as soon as practicable after laying each section to keep the wall face clean of excess mortar. Do not use metal-bristle brushes. A final cleaning shall take place using an approved masonry cleaner such as Sure-Klean #600 and clear water, scrubbing masonry surfaces with stiff fiber or plastic bristle brushes in accordance with manufacturer's directions until all remaining excess mortar has been acceptably removed from masonry face. Wet wall thoroughly before cleaning and after cleaning copiously flow surfaces with water.

(D) CLEANING OF CONCRETE BLOCK:

(1) Exercise care to prevent smearing mortar into surface of block. Keep wall surfaces clean during construction. Mortar droppings that stick to block walls shall be allowed to dry before removal with a trowel. Remove remaining mortar by rubbing with a small piece of block and then brush clean.

(2) Use fresh mortar to fill nail holes or line pins. Clean down exposed surfaces of all concrete block walls, using dry fiber brushes until all dirt, stains, mortar, or other defacements are removed or, when necessary, rubbing surfaces with a piece of block material. Protect adjacent materials from damage from cleaning operations.

(E) DEFECTIVE WORK:

Damaged or defective masonry work shall be removed and reconstructed. This includes defective units (cracks, chipped edges, spalls, or other defects) that impair structural strength or finished appearance of the masonry work.

(F) BUILT-IN WORK:

The mason shall build into walls all frames, bolts, anchors, nailing blocks, ducts, sleeves, conduit, etc., as required and provided by other trades.

12. NEW STAIRS:

Furnish all labor and materials to construct and install new metal fabricated stairs at the northeast end of building location as shown in the plans. Stairs are to be closed type with non-slip treads on steps. The stair installation shall meet all fire, safety, and building codes of the City of Athens. The Contractor shall submit copies of shop drawings to the Project Officer for written approval prior to ordering materials and/or fabrication. Drawing shall clearly show all details, dimensions, and details of fabrication and installation.

13. CARPENTRY:

(A) This section covers carpentry and related items. Work under this section shall include, but not be limited to:

(1) Wood stud framing.

(2) Wood blocking, nailers, and furring.

(3) Rough hardware.

(4) Nails, screws, bolts, and miscellaneous accessories and anchoring devices.

(5) Paneling and Tileboard.

(6) Toilet partitions.

(B) Reference Specifications and Codes:

(1) American Society for Testing and Materials (ASTM).

(2) American Wood Preservers Institute (AWPI).

(3) Southern Pine Inspection Bureau (SPIB).

(4) Commercial Standards (CS).

(C) Storage:

All materials shall be stored in a housed, dry area, clean and well-ventilated and protected from water damage.

(D) Materials:

(1) Framing Material: Grade marked No. 2 SYP Lumber, moisture content 19% maximum.

(2) Furring, Grounds, Ribbons, Bridging, Bracing and Blocking: Grade marked No. 2 SYP; moisture content 19% maximum.

(3) Pressure treat all wood embedded in or attached to concrete or masonry, in a closed cylinder by vacuum-pressure process, full cell method with water-bourne preservative of Osmose K-33 manufactured by Osmose Wood Preserving

Company of America or Wolman Salts manufactured by Koppers Company, Incorporated conforming to American Wood Preservers Association (AWPA) recommendations. After preservative treatment, wood shall be dried to 15-19% moisture content.

(4) Nails: Stronghold type, coated steel annular thread of proper size to suit job condition and requirements.

(E) Workmanship:

(1) Carefully lay out, cut, and erect accurately to required dimensions. Fit closely and secure framing in place with sufficient anchorage. Where members are cut for electrical or mechanical work, properly reinforce with headers, full depth of members cut.

(2) Do all cutting and patching customarily performed by carpenter trade, to end result of providing adequate strength in a neat and workmanlike manner.

(3) Install miscellaneous items for which carpenter trade is customarily responsible, such as "template" setting of anchor bolts, providing frames for openings through concrete and/or masonry, insertion of hangers for suspended ceilings, and like items.

(F) Partition Walls:

Dry partition walls specified on the plans shall be of 2" x 4" wood stud construction installed by workmen experienced in their trade, and shall meet all requirements as stated in this section.

(G) Counter:

The counter will be furnished by the Owner.

(H) Paneling:

(1) Material:

Prefinished paneling for walls specified on plans will be selected by the Project Officer. Allow $7.52 per 4' x 8' sheet.

(2) Window to Paneling:

Fill with 1" thickness No. 1 Fir board so that the horizontal furring butts it.

(I) Countertop Units for Lavatories in restrooms, where specified on the plans, shall be a prefabricated unit with formica top and edges, color and design to be selected by the Project Officer.

(J) Tileboard shall be applied from floor to ceiling on all restroom walls, except to new concrete block or sheetrock partition walls. Tileboard shall be applied to the new concrete block and sheetrock walls from the floor to 4' height in all restrooms. The Tileboard will be selected by the Project Officer. Allow $0.52 per square foot.

(K) Trim for Opening for Counter in the Public Reception Area:

Trim to a width of 10' 0" using No. 1 grade frame and facing. The height of the opening will be floor to ceiling.

(L) Plywood Backboards for Panels: Install 5/8" plywood for service company panels of the sizes and in the locations as required by the several service companies; e.g., Georgia Power Company and Southern Bell.

14. ACOUSTICAL TILE CEILINGS:

(A) SAMPLES:

Submit one sample of each tile specified herein and sample of each component of the grid specified herein for approval of the Project Officer.

(B) COORDINATION:

Work shall be carefully coordinated with all mechanical and electrical work being performed in acoustically-treated areas, in order to avoid interference. Center lines for all areas which are to receive acoustical tile shall be established and maintained by the General Contractor and all trades, including Mechanical and Electrical, shall work to these lines.

(C) MANUFACTURER:

Donn Products, Inc., or approved equal.

(D) CONTRACTOR GUARANTEE:

All materials and workmanship furnished under this section shall be guaranteed in writing for a period of not less than 2 years from date of acceptance by the Owner. Any defective material or workmanship shall be replaced during this period by the General Contractor at no expense to the Owner.

(E) SURPLUS MATERIAL FOR OWNER:

Upon completion of this work, leave with Owner four full packages of each type of tile installed under this Division, unopened.

(F) MATERIALS:

Acoustical Tile: 5/8" x 24" x 48" incombustible mineral fiber tile, rated Class A, Fed. Spec. SS-A-1186, with Class I Flame Spread rating and carry UL label, fissured pattern, light reflectance of .75 or over.

Main Beam: .025 cold rolled steel double web built tee section 1-1/4" high and 15/16" wide. Cross tees shall have web ends die formed for tab lock attachments to adjoining tee thru main beam.

Ends: of main beams and cross tees intersecting wall molding shall be cut flush with exposed to view surfaces of mold by using cut off die as recommended by grid manufacturer.

Wall Molding: Channel or angle shape, .025" cold rolled steel, with 1" exposed face.

Hanger Wire: 12 gauge galvanized. Spacing of hangers shall be in strict conformance with the manufacturer's printed instructions.

Exposed Grid Finish: 2' x 4' Classic White.

(G) WORKMANSHIP:

The suspension system shall support the ceiling assembly called for on the drawings and specified herein with a maximum deflection of 1/360 of the span. Ceiling pattern shall be 24" x 48".

All tile joints and tees shall be straight and in alignment and the exposed tile surfaces shall be flush, level, and

in a uniform plane. Tile shall be neatly scribed to abutting surfaces and to other penetrations or protrusions. Layout shall be adjusted as necessary to avoid the use of tiles less than half-width, insofar as possible, and accurately centered both ways in main room areas.

(H) INSTALLATION:

First install wall molding around perimeter of all abutting vertical surfaces at 8' level for finish ceiling heights. In basement areas the ceiling level may have to be limited to less than 8'. In these areas make the ceiling level as nearly 8' as possible. Suspend main runners (heavy beam) with 12-gauge galvanized wire hangers not over 48" o.c. Hangers and runners spaced as recommended by Manufacturer's maximum load charts. Exposed tees of proper length shall be installed at right angles to main runners creating a 24" x 48" grid. Suspension system shall be erected to produce a finish surface level to within 1/8" in 12' - 0", with levels taken at random.

Acoustical materials shall be installed only when normal temperature and humidity conditions approximate the interior conditions that will exist when the building is occupied. The building shall be neither cold, damp, hot, nor dry. All glazing shall be in place and all exterior openings

closed. All concrete, plastering, and other work shall be complete before installation is begun.

(I) CLEANING:

All acoustical tile shall be left in a clean and spotless condition by the Contractor.

If tile panels have to be removed for construction purposes by the General Contractor after the acoustical work is finished, workmen involved shall wear clean gloves while handling tile. Damaged or unclean tile shall be replaced at no expense to the Owner by the General Contractor.

Acoustical tile ceilings shall be protected from damage until final acceptance of the project by the Owner.

15. RESILIENT TILE:

(A) GENERAL:

(1) These specifications are of the abbreviated type and include incomplete sentences. Omitted words or phrases shall be supplied by inference in the same manner as they are when a note occurs on the drawings.

(2) The Contractor shall provide all items, articles, materials, operations, or methods listed, mentioned, or scheduled on the drawings and/or herein, including all labor, materials, equipment, and incidentals required for their completion.

(B) WORK INCLUDED:

Furnish labor and materials necessary to complete resilient tile and base as indicated, scheduled, as specified herein.

(C) MATERIALS:

(1) Vinyl Asbestos Tile: as manufactured by Kentile, Armstrong, or equal, 1/8" thick, 12" x 12", and from standard price group.

(2) Base: Where scheduled 4" vinyl.

(3) Existing Interior Stairs: Cover steps with square nose treads of material 1/4" thick, nose depth at least 1-5/8". Cover landings with material and color to match treads.

(D) CEMENT:

As recommended and supplied by manufacturer of material used.

(E) SAMPLES:

(1) Do not start work until samples have been submitted, approved. Label samples stating color or shade location in which they are used, manufacturer's name.

(2) Install materials; match approved samples.

(F) DELIVERY:

Deliver materials to job in manufacturer's original unopened containers with manufacturer's brand and name clearly marked thereon.

(G) INSTALLATION:

(1) Lay tile on concrete floors. Inspect floors and approve before starting work. Starting work implies acceptance of floors.

(2) Do not begin work until work of other trades, including painting, has been completed.

(3) Maintain rooms and floors at 70 degrees F. minimum for at least 48 hours before, during, and 48 hours after tile application.

(4) Use only experienced workmen. Lay tile so as to insure good contact with close, even joints and with finished surfaces in true plane, smooth. Lay tiles square with room axis. Lay tiles with grain reversed in alternate tiles.

(5) Cut, fit and scribe to walls, other surfaces.

(6) Base - cement firmly to wall using cement recommended by manufacturer. Base similar and equal to Kenflex; form angles neatly. Bottom and top edges in firm contact with walls, floors.

(H) CLEANING, WAXING & POLISHING:

(1) At completion, clean tile and base. Remove cement, dirt, or other foreign substances.

(2) Apply two coats of water emulsion wax; polish each coat to produce well-polished finish.

(3) Do not permit traffic on finished floors unless they are protected with heavy papers.

(I) ADJUSTMENTS:

(1) Inspect and make adjustments within one month of time that heat is supplied continuously in finished areas.

(2) Repair tile showing minor breaks and fractures, with heat and quick rolling.

(3) Tiles showing broken corners or fracture lines entirely across their surface: warm, remove. Substitute new tile of same color, thickness.

(J) SURPLUS MATERIAL FOR OWNER:

Upon completion of work, leave with Owner 240 sq. ft. (or the nearest case lot equivalent) of the type of tile installed under this Division, unopened.

16. PAINTING:

(A) MATERIALS:

All paint materials shall be first line products of a manufacturer approved by the Project Officer. Deliver materials to the work in original sealed containers. Do not reduce or change materials in any way except as and when specified.

(B) SAMPLES:

Prepare required sample well in advance of the work so as to cause no delay, to meet the approval of the Project Officer as to color. Match approved sample accurately in the finished work.

(C) PROTECTION:

Protect adjacent work and materials from damage.

(D) PREPARATION OF SURFACES:

The subcontractor for work in this section is wholly responsible for the finish of his work. Do not commence any part of the work until surface is in proper condition. Putty nail holes, cracks, and blemishes after priming coat has become dry. Putty shall match shade of finished coat. Paint top and bottom edges of all sashes and doors. Clean greasy and oily surfaces with turpentine or benzine before applying any materials. Remove rust and scale by scraping, wire brushing, or sandblasting. Fill and patch wall and ceiling areas around and over existing stairs, and in other rooms where the plans do not specify ceiling tile.

(E) WORKMANSHIP:

No exterior painting shall be done in rainy, damp, or frosty weather. No interior painting or finishing shall be done until the building has been thoroughly dried out, by artificial heat if necessary.

Allow exterior oil paints to dry 48 hours between coats; allow interior paints to dry 24 hours between coats.

(F) CLEANING AND REMOVAL:

Clean all misplaced paint materials. Leave premises in perfect condition.

(G) SCHEDULE OF PAINTING:

Brand names listed are products of the Gilman Paint Company. Use these products or an equal product.

(1) Exterior Work:

(a) Metal Guard Rail at Front Basement Entrance:

2 coats Gillac Rust-Inhibitive Black #23-3.

(b) Basement Windows - East Wall:

1 coat Enamel Undercoat #21-67.

1 coat Lustre-Glow Enamel.

(2) Interior Work:

(a) Concrete block:

2 coats Gilman's Gilples Interior Latex flat.

(b) Gypsum Board:

1 coat Gilplex and 1 coat Crystalite Enamel.

(c) Restroom:

1 coat Gilplex and 1 coat Crystalite Enamel.

(d) Wood Doors:

2 Coats Gilsand Sealer (Sand and steel wool between coats).

(e) Wood Trim:

1 Coat oil stain to match paneling.

2 Coats Gilsand Sealer. (Sand and steel wool between coats.)

(f) Metal Door Frames:

1 Coat Enamel Undercoat #21-67.

1 Coat Lustre-Glow Enamel.

(g) Metal Guard Rail on Stairs:

2 Coats Gillac Rust-Inhibitive Black #23-3.

(h) Plywood Shelves and Closet Interiors:

1 Coat Enamel Undercoat #21-67.

(i) Window to Paneling Trim:

1 Coat oil stain to match paneling.

2 Coats Gilsand Sealer. (Sand and steel wool between coats.)

(j) Basement Windows: (East Wall)

1 Coat Enamel Undercoat #21-67.

1 Coat Lustre-Glow Emamel.

(k) Existing Stairwell Walls & Ceiling:

2 Coats Gilman's Gilplex Interior Latex Flat.

(l) Ceiling of Rooms without Acoustical Tile:

2 Coats Gilman's Gilplex Interior Latex Flat.

(m) Deck of Rooms without Resilient Tile:

2 Coats of Porch and Deck Paint.

IV. PROPOSAL

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CLARKE COUNTY TAX COMMISSIONER
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ATHENS, GEORGIA 30601

TELEPHONE 543-1444